



Q.4. Please state the nature of any responsibilities you have had with regard to a review of safety concerns associated with pipe breaks in the BWR scram system.

A. Since July 12, I have been lead Project Manager for the generic issue "Safety Concerns Associated with Pipe Breaks in the BWR Scram System." In this capacity, I was responsible for coordinating the final technical review of the concerns and issuance of the staff report. I will also coordinate the review and resolution of responses received from applicants and licenses.

Q.5. What is the purpose of your testimony?

A. The purpose of my testimony is to respond to Contention 21.

Q.6. What does Contention 21 state?

A. Contention 21 states:

"There is a potentially dangerous flaw in the Applicant's reactor in the design of the primary cooling system inasmuch as radioactive water from a break in the scram discharge volume subsystem can disable the major safety systems including the residual heat removal system, the reactor core isolation cooling system, the core sprays and the high pressure coolant injection pumps in a brief period of time."

Q.7. How did the Staff become concerned with pipe breaks in the scram system?

A. The Staff's concern developed as a result of studies by the Office of Analysis and Evaluation of Operational Data, which were prompted by the Browns Ferry 3 control rod partial insertion on June 28, 1980.

Q.8. Has the staff completed a generic review of its safety concerns?

A. Yes. NUREG-0803, "Generic Safety Evaluation Report Regarding Integrity of BWR Scram System Piping", dated August 1981, describes the results of that review.

Q.9. Please state the areas of the Staff's safety concerns.

A. There are three general areas of concern, as identified in NUREG-0803:

- (1) the integrity of the scram discharge volume (SDV) piping;
- (2) emergency procedures to provide for successful mitigation of a leak or break in the SDV or elsewhere in the secondary containment; and
- (3) the environmental qualification of equipment needed to detect an SDV system break and to mitigate the consequences of such a break.

Q.10. Please summarize the conclusions of the generic review, as contained in NUREG-0803.

A. The Staff's generic conclusions on the safety issues are found in Section 5 of NUREG-0803. Briefly, the Staff has concluded that the SDV piping system design is acceptable, provided certain conditions are satisfied on a plant specific basis. The Staff further concluded that the safety concerns associated with a postulated failure of the SDV piping system do not represent a dominant contribution to the risk of core melt, provided certain assumptions used in the risk assessment are validated on a plant specific basis.

Q.11. Has the Staff provided guidance in NUREG-0803 for resolution of its concerns?

A. Yes. NUREG-0803 provides guidance for an acceptable plant specific resolution of the issues related to these concerns. See Table 5.1 of NUREG-0803 for a summary of this guidance.

Q.12. Would you describe briefly the guidance provided for each of the three areas of concern enumerated in the report. First, please address the area of piping integrity.

A. Under NUREG-0803, licensees and applicants are to verify proper SDV piping installation by as built inspection and seismic reanalysis, and propose an inservice inspection program of the SDV system which meets the requirements of ASME Section XI for Class 2 piping.

Q.13. What is the guidance in the area of mitigation capability?

A. Licensees and applicants are to implement revised emergency procedures for pipe breaks in the scram systems.

Q.14. Finally, what is the guidance as to environmental qualifications?

A. Licensees and applicants are to identify equipment needed to (a) detect an SDV system break and (b) mitigate the consequences of such a break. They are to propose a program for qualifying such equipment (if not environmentally qualified) in accordance with the NRC's ongoing environmental qualification program.

Q.15. Is compliance with NUREG-0803 mandatory?

A. No. However, an approach or method different from the guidance in NUREG-0803 will be accepted only if the substitute approach or method provides a basis for determining that the SDV system conforms to GDC 14, GDC 35, GDC 55, §50.2(v), §50.55a (including footnote 2), and §50.46 of the Commission's regulations.

Q.16. Has Applicant submitted an acceptable plant specific response for the safety issues related to pipe breaks in the scram system?

A. Applicant has indicated, by letter dated 9-17-81, that it will comply with the guidance provided in NUREG-0803, and will submit a comprehensive plant specific response by December 29, 1981.

KENNETH T. ECCLESTON

PROFESSIONAL QUALIFICATIONS

I am a Project Manager in Operating Reactors Branch No. 2, Division of Licensing, U.S. Nuclear Regulatory Commission. In this capacity, I am responsible for the review and evaluation of safety and environmental considerations associated with the design and operation of the operating reactors assigned to me. This involves the planning, integration, and management of the efforts of reviewers from specialized areas to formulate our technical evaluations. I am also the staff's primary contact with the licensees. I develop recommendations for licensing actions and integrate the results of our reviews into environmental and safety evaluation reports. I am also the lead project manager for a number of generic issues including the issues "Safety Concerns Associated with Pipe Breaks in the BWR Scram System" and "BWR Scram Systems." I received a Bachelor of Science degree in Physics in 1970 from Manhattan College, New York, N. Y. I also received a Master of Engineering degree in Nuclear Engineering in 1975 from New York University.

I have over nine years of professional experience in the nuclear field and an additional two years experience in the mechanical engineering field. I worked for the Consolidated Edison Company and held positions in the mechanical engineering department and in the nuclear field as a field engineer assigned on location to the Indian Point facilities and as a systems engineer in the Nuclear Engineering Section.

I am presently the NRC Project Manager for the Monticello Nuclear Generating Plant and the Duane Arnold Energy Center.